

**AMENDMENTS TO THE CLAIMS**

**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

1. (currently amended): A set top box capable of performing wireless transmission, the set top box comprising:

a digital television receiver, which converts a tuned digital broadcasting signal into a first transport stream (TS);

a TS converting unit, which receives at least one of a high definition (HD)progressive scanning image signal input from outside and an external SD-interlaced scanning image signal input from outside, converts the HD progressive scanning image signal into a standard definition (SD)an interlaced scanning image signal if the HD progressive scanning image signal is received, and then converts one of the SD-interlaced scanning image signal and the external SD interlaced scanning image signal into a second TS; and

a wireless processing module, which processes one of the first TS and the second TS as a processed output and wirelessly transmits the processed output,

wherein the TS converting unit comprises:

a converter, which converts the HD progressive scanning image signal input from outside into the SD-interlaced scanning image signal and outputs the SD-interlaced scanning image signal as an output of the converter by separating fields from the progressive scanning image signal and transmitting the separated fields; and

an encoding unit, which converts the external SD-interlaced scanning image signal input from outside or the output of the converter into the second TS, and

wherein the TS converting unit further comprises one switching unit operable to receive the external SD-interlaced scanning image signal and the SD-interlaced scanning image signal output from the converter and selects one of the external SD-interlaced scanning image signal and the SD-interlaced scanning image signal output from the converter to output to the encoding unit.

2. (previously presented): The set top box of claim 1 further comprising another switching unit which receives the first TS and the second TS and outputs one of the first TS and the second TS as an output of the other switching unit.

3. (previously presented): The set top box of claim 2 further comprising a decoding unit which decodes the output of the other switching unit and outputs a decoded TS stream to an image device connected to the set top box by a wire.

4. (canceled)

5. (currently amended): The set top box of claim 1, wherein the converter comprises:

an analog-to-digital converter (ADC), which converts the HD-progressive scanning image signal input from outside into a digital signal; and  
a down converter, which converts the HD-progressive scanning image signal converted into the digital signal into the SD-interlaced scanning image signal by separating the fields from the progressive scanning image signal and transmitting the separated fields.

6. (original) The set top box of claim 3, wherein the wireless processing module wirelessly transmits the processed output in a radio frequency range.

7. (original) The set top box of claim 5, wherein the wireless processing module wirelessly transmits the processed output in a radio frequency range.

8. (original) The set top box of claim 3, wherein the digital television receiver is an advanced television system committee (ATSC) receiver.

9. (original) The set top box of claim 5, wherein the digital television receiver is an advanced television system committee (ATSC) receiver.

10. (currently amended): A method for performing wireless transmission of television signals comprising:

receiving a digital broadcasting signal and converting the digital broadcasting signal into a first transport stream (TS);

receiving at least one of an external high definition (HD)progressive scanning image signal and an external standard definition (SD)interlaced scanning image signal, converting the external HD-progressive scanning image signal into an internal SD-interlaced scanning image signal by separating fields from the progressive scanning image signal and transmitting the separated fields if the external HD-progressive scanning image signal is received, one switching between one of the internal SD-interlaced scanning image signal and the external SD-interlaced

scanning image signal; and converting one of the internal SD-interlaced scanning image signal and the external SD-interlaced scanning image signal into a second TS; and

transmitting one of the first TS and the second TS over a wireless medium,

wherein the converting one of the internal SD-interlaced scanning image signal and the external SD-interlaced scanning image signal into a second TS comprises:

encoding one of the external SD-interlaced scanning image signal and the internal SD-interlaced scanning image signal into the second TS; and

converting one of the internal SD-interlaced scanning image signal and the external SD-interlaced scanning image signal received from the one switching, into the second TS.

11. (original) The method as claimed in claim 10 further comprising decoding one of the first TS and the second TS and transmitting a decoded signal to an image device through a wire.

12. (canceled)

13. (currently amended): The method as claimed in claim 10, wherein the converting the external HD-progressive scanning image signal into an internal SD-interlaced scanning image signal comprises:

converting the external HD-progressive scanning image signal into a digital signal; and

down converting the digital signal into the internal SD-interlaced scanning image signal by separating the fields from the progressive scanning image signal and transmitting the separated fields.

14. (original) The method of claim 11, wherein the transmitting one of the first TS and the second TS over the wireless medium is done at a radio frequency.

15. (original) The method of claim 13, wherein the transmitting one of the first TS and the second TS over the wireless medium is done at a radio frequency.

16. (canceled)

17. (previously presented): The set top box of claim 1 further comprising another switching unit which receives the first TS and the second TS and outputs one of the first TS and the second TS as an output to the wireless processing module.

18. (canceled)

19. (previously presented): The method as claimed in claim 10 further comprising another switching between the first TS and the second TS for the transmitting over the wireless medium.